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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/580,933

05/30/2006

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EXAMINER

DEVITO, ALEX T

ART UNIT

PAPER NUMBER

2856

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/580,933	<b>Applicant(s)</b> CHIBA ET AL.	
	<b>Examiner</b> ALEX DEVITO	<b>Art Unit</b> 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-19 is/are allowed.
- 6) ☒ Claim(s) 1-11 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/30/06&amp;2/20/07</u> .                                     | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

This Office Action is in response to the Applicant's communication filed on May 30, 2006. In virtue of this communication, claims 1-20 are currently presented in the instant application.

#### ***Drawings***

1. The drawings submitted on 5/30/2006 are accepted.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 4-7, 9 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams et al. (U.S. Patent No. 5,224,373, hereinafter Williams) in view of Lowther (U.S. Patent No. 4,038,050).

With respect to claim 1, Williams discloses a moisture absorbent material with an indicator function, characterized in that the material comprises: a resin layer; and a printed layer including a character, shape, picture or the like and disposed on at least one side of said resin layer, so that said printed layer is made to visibly appear due to said resin layer becoming transparent by moisture absorption (column 4, lines 1-29). Williams does not disclose that the resin layer contains 5 to 80% zeolite by weight.

Lowther discloses a moisture absorbent material with an indicator function that can change colors by absorbing moisture (column 4, lines 26-53), but does not disclose what percent of the resin is contains 5 to 80% zeolite by weight. However this is not a difference of patentable merit as it is an optimization of ranges under routine experimentation. See MPEP 2144.05 II-A.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the moisture absorbent material with an indicator function that can change colors by absorbing moisture of Williams by additionally stipulating that the resin be comprised of zeolite as taught by Lowther for the benefit of a high capacity even at high temperatures (see Lowther column 4, lines 26-36).

With respect to Claim 2, the combination of Williams and Lowther disclose the moisture absorbent material with an indicator function according to claim 1, characterized in that said printed layer is so formed that patterns constituted by characters, symbols, lines or the like have a difference in the print density thereof (see Williams figure 3, element 16 and note that sections with the letters have a higher print density than areas without, and certain letters have a higher print density than others).

With respect to Claim 4, the combination of Williams and Lowther disclose the moisture absorbent material with an indicator function according to claim 3, characterized in that the material has a barrier film superposed on at least one surface thereof (see Williams column 4, line 64 – column 5, lines 1-5).

With respect to Claim 5, the combination of Williams and Lowther disclose the moisture absorbent material with an indicator function according to claim 4,

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characterized in that an ink of one color selected from white, black, red, blue, green, yellow, indigo, cyan and magenta or an ink of mixed colors selected therefrom is applied between said barrier film and said printed layer (see Williams, column 5, lines 56-65).

With respect to Claim 6, the combination of Williams and Lowther disclose the moisture absorbent material with an indicator function according to claim 1, characterized in that an ink of one color selected from white, black, red, blue, green, yellow, indigo, cyan and magenta or an ink of mixed colors selected therefrom is applied to an opposite side of said resin layer which is provided with said printed layer (see Williams, column 5, lines 56-65).

With respect to Claim 7, the combination of Williams and Lowther disclose the moisture absorbent material with an indicator function according to claim 1, but do not disclose that said resin layer exhibits light transmittance of 70% or more when moisture absorption of said resin layer reaches a saturation state. However, as the color change is dictated by the amount of moisture absorbed as taught by Lowther in column 4, lines 26-36, the amount of light transmittance is determined through routine experimentation by varying the amount of zeolite in the resin.

With respect to Claim 9, the combination of Williams and Lowther disclose the moisture absorbent material with an indicator function according to claim 1, but do not disclose that said ink used for said printed layer has a weight ratio of pigment or dye to resin within a range of .05 to 50 by wt%. However this is not a difference of patentable merit as it is an optimization of ranges under routine experimentation. See MPEP 2144.05 II-A.

With respect to Claim 20, although neither Williams nor Lowther specifically disclose placing the resin layer of claim 1 onto a packaging bag, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the container of Williams to any suitable container configuration, including a bag.

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Williams (U.S. Patent No. 5,224,373) in view of Lowther (U.S. Patent No. 4,038,050), in further view of Nakajima et al. (U.S. Patent No. 5,712,023, hereinafter Nakajima).

With respect to Claim 10, Williams and Lowther disclose all the claimed limitations of claim 9, as expressly recited above but do not disclose that the printed layer has an ink film thickness of .3 to 100 um.

Nakajima discloses using an ink film of thickness between 2 and 20 microns for the benefit of quick drying time and evenness of the surface (column 6, lines 37-47). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the moisture absorbent material of Williams and Lowther to the thickness as prescribed by Nakajima for the aforementioned reasons. Furthermore this range anticipates the range as claimed and thus is rendered obvious under overlap of ranges, see MPEP 2144.05 I.

#### ***Allowable Subject Matter***

5. Claims 3, 8, 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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6. The following is a statement of reasons for the indication of allowable subject matter: With respect to claim 3, none of the prior arts place an extra resin layer on the opposite side of the printed material. With respect to claim 8, none of the prior arts place a reflecting surface on a side of the absorbent material. With respect to claim 11, none of the prior arts disclose that a printed pattern appears when a difference in optical density vales between a whitish turbid state and a transparent state of said resin layer is rendered .05 or more. The examiner finds these limitations to be neither anticipated by the aforementioned prior arts nor made obvious under any reasonable combination.

7. Claims 12-19 allowed.

8. The following is an examiner's statement of reasons for allowance: As seen in the rejections above Williams and Lowther disclose a humidity indicator characterized in that a film using a zeolite-containing resin composition and a polyolefin film having a pattern printed thereon is known in the art, but neither disclose a reflecting surface laminated on, nor that said pattern is rendered visible by utilizing a change of said film using the zeolite containing resin composton from a whitish turbid state to a transparent state due to moisture absorption.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Inquiry***

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEX DEVITO whose telephone number is (571)270-7551. The examiner can normally be reached on flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 5712722208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ALEX DEVITO/  
Examiner, Art Unit 2856

/Hezron Williams/  
Supervisory Patent Examiner, Art  
Unit 2856